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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,305	03/19/2004	James R. Gustafson	67,010-089; H2751-ED	7335
26096	7590	02/06/2006	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			LAM, THANH	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/804,305

Applicant(s)

GUSTAFSON ET AL.

Examiner

Thanh Lam

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4-6 and 10-23 is/are pending in the application.
- 4a) Of the above claim(s) 15,17-19 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-6 and 10-14,16,20-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Appeals Brief was filed 11/28/2005 in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. The appeal has been withdrawn and prosecution in this application has been reopened. The finality of the rejection of the last Office action is withdrawn and the new rejection as following.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 15,17-19, and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new subject matters are "said rotor rotatable while substantially submerged in said dielectric fluid to circulate said dielectric fluid through said cavity." as recited in claims 15, "an engine" recited in claims 17-18,23, and "a gas turbine engine" as recited in claim 19.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,4-6,13-14,20-22, are rejected under 35 U.S.C. 102(b) as being anticipated by Arutunoff (US 1,531,724).

Regarding claim 1, Arutunoff discloses an electric motor assembly, comprising: a fluid circulation circuit: a housing (1, fig. 6) having a cavity (30,31) that is fluidly connected to said fluid circulation circuit; an electric motor having at least one electric motor component (4, fig. 6) disposed in the cavity a thermally conductive fluid for circulation through the cavity to substantially submerge (p. 2, col.1, lines 62-64, see oil level a-a', fig. 6) said at least one electric motor component.

Regarding claim 4, Arutunoff discloses the housing further comprises a partition (32) and the electric motor comprises a rotor (5), a stator iron (4), and a stator winding (18), the partition separating the rotor from the stator iron and the stator winding, wherein a space between an exterior portion of the partition and the housing (1) forms the cavity, and wherein the thermally conductive fluid fills the cavity to substantially submerge at least one of the stator iron and the stator winding without contacting the rotor.

Regarding claim 5, Arutunoff discloses thermally conductive fluid is a dielectric fluid (p. 2, col. 1, lines 15, disclosed pure oil is free of particles, therefore it does no conduct electrical current/volt. and prevent short circuit).

Regarding claim 6, Arutunoff discloses the dielectric fluid is a dielectric oil.

Regarding claim 13, Arutunoff discloses said at least one electric motor component includes one of a rotor and a rotor bearing (3a, fig. 6) substantially submerged in said thermally conductive fluid.

Regarding claim 14, Arutunoff discloses dielectric fluid is in fluid communication with a bearing which supports a rotor shaft.

Regarding claim 20, Arutunoff discloses method of cooling of lubricating an electric motor assembly comprising:

(1) circulating a dielectric fluid (p. 2, col. 1, lines 15, disclosed pure oil is free of particles, therefore it does no conduct electrical current/volt. and prevent short circuit) though a motor housing (1) cavity (31,30) having an electric motor disposed therein;

(2) communicating heat from the electric motor directly into the dielectric fluid;  
and

(3) lubricating a moving component (3a, fig. 6) of the electric motor with the dielectric fluid.

Regarding claim 21, Arutunoff discloses said step (1) further comprises directly transferring heat from a rotor bearing (3a, fig. 6) of the electric motor to the dielectric fluid, and said step (2) further comprises lubricating the rotor bearing with the dielectric fluid.

Regarding claim 21, Arutunoff discloses rotating a component (8) of the electric motor to circulate the dielectric fluid through the motor housing cavity.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 10-12,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arutunoff in view of McCabria (US 5034638).

Regarding claim 10, Arutunoff discloses all the aspect of claimed invention except for the housing has a fluid inlet and a fluid outlet the system further comprises: a fluid pump that circulates the dielectric fluid through the fluid inlet into the cavity and out of the fluid outlet; and a fluid reservoir that houses excess dielectric fluid.

McCabria discloses the housing (14) has a fluid inlet (D, fig. 1) and a fluid outlet (E or B) the system further comprises: a fluid pump (50) that circulates the dielectric fluid through the fluid inlet into the cavity and out of the fluid outlet; and a fluid reservoir (60) that houses excess dielectric fluid.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the housing configuration of Arutunoff to accommodate the combination structure as taught by McCabria in order to improve the cooling system.

Regarding claim 11, McCabria a heat exchanger (86 of McCabria) in communication with the dielectric fluid.

Regarding claim 12, McCabria a filter (86 of McCabria) connected upstream of the housing to filter particles from the dielectric fluid.

Regarding claim 16, Arutunoff discloses said fluid circulation circuit includes a portion (110 of McCabria) that is outside of said housing.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on t-f 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam  
Primary Examiner  
Art Unit 2834

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